Inspector: James Mason
Inspection Date: 01/12/10
Tank ID: D-381
IFR Seal Inspection

An inspection of the floating roof and seal was performed by HMT to satisfy the requirements of TCEQ Regulation V.

Visual inspection found the following:

1. Is the floating roof not resting on the surface of the liquid inside the tank and not resting on the leg supports? – No

2. Has liquid accumulated on the floating roof? – No

3. Is the seal detached? – No

4. Are there holes or tears in the seal fabric? – No

5. Are there visible gaps between the seal and the wall of the storage tank? If so, are the visible gaps exceeding the allowable gap area between the seal and the wall of the storage tank? – No

6. Is the bleeder vent closed ? Not Visible

Additional Comments/Summary of Inspection Findings:

Unit: BEU Tank Farm
Equipment: T00D381
Finished Benzene Class A Tank
Subject: Routine External Visual Inspection

EXTERNAL INSPECTION:
An API-653 external inspection was performed on 8/15/08 as part of leveling out heavy workload inspection schedules. This tank was in service at the time of this inspection.

STAIRS/HANDRAILS/PLATFROM:
The spiral access stairs and handrails were in satisfactory condition at the time of this inspection. There was one area of moderate corrosion where the platform angle iron support clip attaches to the tanks shell.

FOUNDATION:
The tank foundation is earthen sand pad and a concrete ring. No issues were noted with the exception of the soil build up.

CHIME RING:
Approximately 90% of the chime is covered with soil; the visible portion was in satisfactory condition with no knife edging or corrosion noted.

GROUND:
There was no ground wire found at the time of this inspection.

ROOF:
The fixed Roof was in satisfactory condition at the time of this inspection. There were 3 existing patches installed on this fixed roof. A new coating was applied and it was in like new condition.

ROOF APPURTENANCES:
All roof appurtenances appear to be in satisfactory condition with no visible leaks noted during this inspection.

SHELL:
There was area of moderate corrosion located on the top shell course where the platform support clips is attached to the shell. The remainder of the shell was in satisfactory condition with no visible distortions/buckles noted.

SHELL APPURTENANCES:
There were no signs of any leakage or corrosion on any of the nozzles. All the repad weep holes are open and not mechanically plugged. The flange bolting was in satisfactory condition.

WATER DRAW BOX:

The concrete box was full of water at the time of this inspection. The bottom draw pipe could not be inspected since it was under water.

NAMPLATE:
The manufactures data plate was attached and legible.

RECOMMENDATION:
1) Remove all soil from chime area so a visual inspection can be performed.
2) Attach a ground wire to tank.
3) Drain water from water draw box.

NOTE:
The above-mentioned items will be address through the Aromatics rejuvenation project.

INSPECTION INTERVAL:
Based on the external condition and the past history the external inspection interval will remain at 60 months.
Jimmy Wilfong Shell Inspection

1/31/2002
RBI for Tank Bottom

Tank D-381 received an RBI study on the bottom only. This survey was performed using The Shell Chemical Company BP&G. Following is a summary of this study.
This tank will need the new repair calculation done.

Likelihood Rating
The following data was input into the calculation sheet to determine overall corrosion rate and the "ar/t" value.

1. Age of Floor 4 years (partial in 97)
2. Original floor thickness .250 inches
3. Corrosion rate from API-653 calculations 10
4. Baseline corrosion rate 3 mils
5. Cathodic Protection Effectiveness -1 (Perimeter readings -0.85 mv to -1.2 mv)
6. Internal Coating 1.0 (no coating)
7. Needs Internal coating 0 (no)
8. Foundation type 1 (soil)
9. Product temp 1 (between 100-200F)
10. Steam coils? 1.0 (No)
11. Water drainage 3 (ineffective)

Basis this input, the final ar/t value was .16.

A review of past inspection data showed there has been 1 inspection/s with an overall rating of effective. Entering the Thinning Module Table with the ar/t and the inspection data yields a Likelihood Rating of low (blue).

Consequence Rating
Basis a review with Environmental and Health & Safety, the following consequence levels were established as the most likely outcome in the event of a tank bottom leak:
Environmental 3 (greater than1 barrel of chemicals spilled + RQ exceeded)
Health 2 (although unlikely, worst case is a human carcinogen)
Safety 2 (flash point of product 0 - 100F)
Financial Impact 3 ($100,000 - $1MM) ($2K remediation / $70K lost production)
Hazardous Waste? no

Risk Rating
Combining the Likelihood and Consequence data in the Tank Bottoms RBI Criticality Matrix yields a risk rating of high (yellow).

Inspection Plan

Basis the risk rating above, this tank will have to be internally inspected when the likelihood reaches high.

New Interval

Re-entering the Thinning Module Table at the 1 effective inspections (from likelihood section) and moving down until the likelihood requirements in the Inspection Plan above is reached produces a maximum ar/t value of .65 (A tank). Inputting this value in "Step 4" of the Calculation Sheet yields a new RBI due date of 17 years. The last internal inspection was performed on 9-15-98. Based on this RBI analysis and the resulting due date, the new internal interval will be 12-31-15.

Risk Reduction Opportunity

This tank should have the drainage improved as the installation hold water next to the tank when it rains.